

# SUPPLEMENTARY INFORMATION

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Dilution	Mimivirus (Lineage A) WT			Moumouvirus (Lineage B)			Courdo7 (Lineage C)		
	H0	H24	H48	H0	H24	H48	H0	H24	H48
1	17,32	18,55	18,14	17,04	9,4	10,14	17,23	9,45	9,09
1/2		19,09	19,38		11,64	11,94		10,68	10,65
1/4		19,73	20,8		12,96	12,36		11	11,78
1/8		20,16	21,92		13,78	13,14		11,88	12,54
1/16		21,74	23,33		14,69	14,74		12,73	13,71
1/32		23,33	23,88		16,98	15,18		14,89	14,98
1/64		24,7	24,332		17,33	17,88		16,22	15,37
1/128		25,66	26,09		17,96	18,47		17,97	16,21
1/256		26,23	27,14		18,56	19,74		18,73	16,9
1/512		27,1	27,82		19,47	19,99		19,25	17,36
1/1024		28,73	28,45		20,38	20,69		21,09	18,2
1/2048		30,34	30,03		21,17	21,03		21,98	19,79
1/4096		32,55	32,11		22,25	22,14		22,72	21,39
1/8192		33,34	32,99		22,91	23,88		23,13	22,82

Dilution	R349 - Assay 1			R349 - Assay 2			R349 - Assay 3		
	H0	H24	H48	H0	H24	H48	H0	H24	H48
1	16,93	13,06	12,43	17,73	13,81	12,42	16,91	12,34	12,94
1/2		14,56	13,64		14,64	13,55		13,66	13,34
1/4		15,34	14,28		15,93	14,36		14,84	14,88
1/8		16,42	15,61		16,42	15,67		15,34	14,91
1/16		17,63	15,72		17,42	16,91		16,28	15,41
1/32		18,71	16,35		18,23	17,85		17,97	16,37
1/64		19,2	17,59		19,41	18,75		18,53	17,52
1/128		20,34	18,91		20,34	19,64		19,76	18,19
1/256		21,31	20,09		21,56	20,19		20,44	19,34
1/512		22	20,97		22,57	21,33		21,12	20,44
1/1024		23,42	21,43		23,7	22,56		22,31	21,75
1/2048		24,39	22,62		24,58	23,57		23,41	22,69
1/4096		25,97	23,37		25,13	24,14		24,58	23,63
1/8192		26,46	24,76		26,98	25,77		25,37	24,22

Dilution	R350 - Assay 1			R350 - Assay 2			R350 - Assay 3		
	H0	H24	H48	H0	H24	H48	H0	H24	H48
1	16,93	14,35	13,87	17,23	15,61	13,12	16,73	14,24	14,09
1/2		15,89	15,09		16,89	14,32		15,36	14,56
1/4		16,91	16,29		17,91	15,57		16,67	15,74
1/8		17,52	17,21		18,27	16,74		17,71	16,82
1/16		18,29	18,92		19,32	17,79		18,41	17,32
1/32		19,67	19,34		20,41	18,49		19,54	18,93
1/64		20,49	20,71		21,85	19,63		20,62	19,64
1/128		21,92	21,39		23,09	20,55		21,1	20,79
1/256		22,23	22,83		23,99	21,51		22,39	21,95
1/512		23,88	23,42		24,21	22,34		23,41	22,48
1/1024		24,48	24,39		25,43	23,84		24,87	23,59
1/2048		25,98	25,81		26,65	24,79		25,62	24,34
1/4096		26,05	26,74		27,16	25,92		26,9	25,65
1/8192		27,82	27,06		29,01	26,84		27,78	26,12

Dilution	R354 - Assay 1			R354 - Assay 2			R354 - Assay 3		
	H0	H24	H48	H0	H24	H48	H0	H24	H48
1	18,55	15,68	15,55	16,91	14,18	14,02	17,46	14,83	14,39
1/2		16,58	17,32		15,87	15,29		15,55	15,48
1/4		17,78	17,92		16,91	16,63		16,29	15,92
1/8		18,14	19,17		17,88	17,51		17,74	16,83
1/16		19,38	19,97		18,69	18,26		18,61	18,04
1/32		20,8	21,13		19,94	19,33		19,36	19,6
1/64		21,92	21,97		21,11	20,88		20,88	19,98
1/128		23,33	24,51		22,56	21,76		21,14	20,85
1/256		24,49	24,48		23,48	23,05		22,43	22,17
1/512		25,07	26,56		24	24,67		23,56	23,38
1/1024		26,14	27,47		25,38	25,41		24,73	24,49
1/2048		27,82	27,96		26,25	26,59		25,89	25,27
1/4096		28,45	29,32		28,04	28,17		26,63	26,34
1/8192		30,03	29,93		29,99	29,92		28,44	27,56

Dilution	R349 + R350 + R354 - Assay 1			R349, R350, R354 - Assay 2			R349, R350, R354 - Assay 3		
	H0	H24	H48	H0	H24	H48	H0	H24	H48
1	16,32	14,98	12,19	16,03	15,54	12,36	16,97	15,69	12,03
1/2		16,08	13,88		16,38	13,66		16,77	13,55
1/4		17,65	14,69		17,41	14		17,23	14,62
1/8		18,45	15,66		18,95	15,42		18,54	15,74
1/16		19,78	16,41		19,66	16,34		19,61	16,33
1/32		20,55	17,69		20,23	17,52		20,31	17,85
1/64		21,05	18,34		21,69	18,95		21,16	18,36
1/128		22,63	19,24		22,36	19,39		21,99	19,24
1/256		23,61	20,19		23,05	20,88		23,08	21,11
1/512		24,91	21,29		24,72	21,77		24,65	21,97
1/1024		25,52	22,04		25,78	22,64		25,51	22,64
1/2048		26,44	23,88		26,98	23,04		26,93	23,59
1/4096		27,08	24,71		27,69	24,74		27,41	24,18
1/8192		28,33	25,63		28,2	25,66		28,69	25,71

Supplementary Table 1. Ct values from PCR reactions after 0, 24 and 48 hours.

Lineage	Name	Country/region	Source	Sequencing	Reads generated	Coverage	Assembly tool	Scaffold number	Genbank accession number
A	Mimivirus fauteuil	France (Marseille)	Hospital water	454/Solid	Paired end	34x	Newbler 2.7	1	CWKE00000000
	Mimivirus longchamps	France (Marseille)	Decorative fountain water	454/Solid	Paired end	37x	Newbler 2.7	1	CXOV00000000
	Mimivirus marais	France (Aubagne)	Swamp	454/Solid	Paired end	363x	NA	NA	PRJEB9199
	Mimivirus montadette2	France (Martigues)	Soil	Solid	Paired end	439x	NA	NA	PRJEB9187
	Mimivirus univirus	France (Marseille)	Compost	454/Solid	Paired end	160x	NA	NA	PRJEB9188
	Mimivirus lactours	France (Tours)	River	454/Solid	Paired end	30x	Newbler 2.7	28	CXOL00000000
	Mimivirus PointeRouge1	France (Marseille)	Seawater	454/Solid	Paired end	30x	Newbler 2.7	1	CXOW00000000
	Mimivirus PointeRouge2	France (Marseille)	Seawater	454/Solid	Paired end	30x	Newbler 2.7	1	CXOU00000000
	Mimivirus T3	France (Marseille)	Stagnant water	Miseq	Paired end	97x	Abyss 2.3	4	CXOR00000000
	Mimivirus huitre A06	Brazil	Seafood (Oyster)	Miseq	Paired end	52x	Abyss 2.3	1	CWJT00000000
	Mimivirus amazonia	Brazil	Water	Miseq	Paired end	88x	Abyss 2.3	1	CWHO00000000
	Mimivirus battle7	France (Sainte Baume)	Soil	Miseq	Paired end	12x	Abyss 2.3	18	CWJW00000000
	Mimivirus battle19	France (Marseille)	Soil	Miseq	Paired end	62x	Abyss 2.3	4	CWJX00000000
	Mimivirus battle27	France (Marseille)	Sink swab	Miseq	Paired end	40x	Abyss 2.3	4	CWJS00000000
	Mimivirus battle57	France (Marseille)	Soil	Miseq	Paired end	120x	Abyss 2.3	3	CWJZ00000000
	Mimivirus battle66	France (Marseille)	Soil	Miseq	Paired end	97x	Abyss 2.3	3	CWKA00000000
	Mimivirus battle83	France (Marseille)	Soil	Miseq	Paired end	117x	Abyss 2.3	5	CWKG00000000
	Mimivirus battle86	France (Marseille)	Sink swab	Miseq	Paired end	372x	Abyss 2.3	5	CWKD00000000
	Mimivirus T2	France (Marseille)	Stagnant water	Miseq	Paired end	167x	Abyss 2.3	2	CXOT00000000
	Mimivirus battle6	France (Marseille)	Bathtub swab	Miseq	Paired end	92x	Abyss 2.3	4	CWJU00000000
Mimivirus dakar4	Senegal (Dakar)	Sewage	Miseq	Paired end	174x	Abyss 2.3	4	CWKF00000000	
B	Moumouvirus ochan	France (Marseille)	Compost	454/Solid	Paired end	51x	Newbler 2.7	1	CXPE00000000
	Moumouvirus istres	France (Istres)	Soil	Solid	Paired end	222x	NA	NA	PRJEB9189
	Moumouvirus battle49	France (Cassis)	Soil	Miseq	Paired end	96x	Abyss 2.3	8	CXOS00000000
	Moumouvirus saoudian	Saudi Arabia (Jeddah)	Sewage	Miseq	Paired end	60x	Abyss 2.3	7	CXOQ00000000
	Moumouvirus bougl	Tunisia (Gafsa)	Hypersaline soil	454/Solid	Paired end	95x	NA	NA	PRJEB9190
C	Megavirus sete2	France (Sète)	Soil	Solid	Paired end	50x	NA	NA	PRJEB9191
	Megavirus shan	Tunisia (Tunis)	Stool	Solid/Miseq	Paired end	44x	Abyss 2.3	2	CWIL00000000
	Megavirus terrain en construction	France (Marseille)	Soil	Solid	Paired end	323x	NA	NA	PRJEB9192
	Megavirus courdo5	France (Marseille)	Rivers	454/Solid	Paired end	28x	Newbler 2.7	1	CWID00000000
	Megavirus bus	France (Marseille)	Cooling tower water	454/Solid	Paired end	23x	Newbler 2.7	1	CWIQ00000000
	Megavirus montpellier3	France (Montpellier)	Decorative fountain water	454/Solid	Paired end	33x	Newbler 2.7	1	CWIA00000000
	Megavirus mont1	Tunisia (Tunis)	Soil (mountain)	Miseq	Paired end	24x	Abyss 2.3	3	CWIO00000000
	Megavirus avenue9	Tunisia (Tunis)	Soil	454/Solid	Paired end	19x	Newbler 2.7	1	CWHN00000000
	Megavirus balcon	France (Marseille)	Soi	Solid	Paired end	424x	NA	NA	PRJEB9194
	Megavirus potager	France (Marseille)	Soil (potato garden)	Solid	Paired end	409x	NA	NA	PRJEB9932
	Megavirus ursino	France (Marseille)	Huveaune sewage	Miseq	Paired end	81x	Abyss 2.3	2	CWJY00000000
	Afrovirus urmite69	France (Aubagne)	Soil	Solid/Miseq	Paired end	30x	Abyss 2.3	1	CWHP00000000
	Megavirus T1	France (Marseille)	Stagnant water	Miseq	Paired end	212x	Abyss 2.3	6	CWIB00000000
	Megavirus battle43	France (Marseille)	Water	Miseq	Paired end	164x	Abyss 2.3	1	CWHV00000000
	Megavirus T4	France (Marseille)	Stagnant water	Miseq	Paired end	83x	Abyss 2.3	2	CWJR00000000
	Megavirus montadette1	France (Martigues)	Soil	Solid	Paired end	350x	NA	NA	PRJEB9196
	Megavirus feuillage	France (Martigues)	Soil	Solid	Paired end	342x	NA	NA	PRJEB9197
	Megavirus J3	France (Marseille)	Stagnant water	Miseq	Paired end	22x	Abyss 2.3	3	CWIN00000000
Megavirus T6	France (Marseille)	Soil	Miseq	Paired end	48x	Abyss 2.3	2	CWJQ00000000	

**Supplementary Table 2. List of Megavirales strains used in this study.** The geographical and source origins are detailed as well as the sequencing method.

Targeted gene		Primer sequences (Duplex)	Zamilon infection	DNA Zamilon multiplication (fold)
R338	Forward	CCAUCUGCAAUUACAGCAUTT	No	0
	Reverse	AUGCUGUAAUUGCAGAUGGTT		
R339	Forward	GCUUCUAAACUCCAGUAUTT	No	0
	Reverse	AUACUGGAAGUUUAGAAGCTT		
L340	Forward	CCGAUAUGUUAGAACUCUUTT	No	0
	Reverse	AAGAGUUCUAACAUAUCGGTT		
R341	Forward	CCUCCAGAAGAAAUUCAAUTT	No	0
	Reverse	AUUGAAUUUCUUCUGGAGGTT		
R342	Forward	GGUAAUUGGUACACCAUUTT	No	0
	Reverse	AAUGGUGUACCAAUUACCTT		
R343	Forward	GCAUUUGUUGGAGCUCUAUTT	No	0
	Reverse	AUAGAGCUCCAACAAAUGCTT		
L344	Forward	CCC AUUGGCACCUAUCCAUTT	No	0
	Reverse	AUGGAUAGGUGCCAAUGGGTT		
R345	Forward	GGACGAAUUCGAUGAUCUUTT	No	0
	Reverse	AAGAUC AUCGAAUUCGUCCTT		
R346	Forward	GCUGGUAGACCUUAUCAAAATT	No	0
	Reverse	UUUGAU AAGGUCUACCAGCTT		
R347	Forward	GCUACUAUUCGUAGACAAATT	No	0
	Reverse	UUUGUCUACGAAUAGUAGCTT		
R348	Forward	CCUGUAAUUGACCAGUUAATT	No	0
	Reverse	UUAACUGGUCAAUUACAGGTT		
R349	Forward	GGAGGUGAAAUCGAUCAUTT	Yes	65
	Reverse	AUGCAUCGAUUUCACCUCTT		
R350	Forward	CCGCAACUCCAGCUAUUAATT	Yes	18
	Reverse	UUA AUAGCUGGAGUUGCGGTT		
R351	Forward	GGAU AUUCACAUGGAUCAATT	No	0
	Reverse	UUGAUCCAUGUGAAUUCCTT		
L352	Forward	CCUUCUGGAUCGUCACAAUTT	No	0
	Reverse	AUUGUGACGAUCCAGAAGGTT		
R353	Forward	GGGUUGAGUAUGUUACUAATT	No	0
	Reverse	UUAGUAACAUAUCAACCTT		
R354	Forward	GGACGAAUUCGAUGAUCUUTT	Yes	14
	Reverse	AAGAUC AUCGAAUUCGUCCTT		
R355	Forward	GCUGAUUGUGAUCAAGUUUTT	No	0
	Reverse	AAACUUGAUCACAAUCAGCTT		
L356	Forward	GGUGGAAUAUCAAUUCGAAUTT	No	0
	Reverse	AUUCGAUUGAUUUCACCTT		
L357	Forward	CCACAUAUCCACCCUAUUTT	No	0
	Reverse	AUAUGGGUGGAGUAUGUGGTT		
R358	Forward	GGUGCUAAAAGUUGUUGUAUTT	No	0
	Reverse	AUACAACAACUUUAGCACCTT		
L359	Forward	GCUCUCCUGAAAUAUCUUTT	No	0
	Reverse	AAGAU AUUCAGGAAGAGCTT		
L360	Forward	GGAUUAUCGUAUUUCGCAUTT	No	0
	Reverse	AUGC GAAUUCGAUAAUCCTT		
L361	Forward	GCUCAAUUGCGCAACUAUUTT	No	0
	Reverse	AAUAGUUGCGCAAUUGAGCTT		
R362	Forward	GCAACAAGGUGGUAUCAUTT	No	0
	Reverse	AUGAUUACCACCUUGUUGCTT		
R363	Forward	CCACUCGGAUCCAAAUAUUTT	No	0
	Reverse	AUAAUUUGGAUCCGAGUGGTT		
L364	Forward	GGAUGUCCUCCAUGCAGATTT	No	0
	Reverse	AUCUGCAUGGAGGACAUCTT		

**Supplementary Table 3. List of targeted genes and siRNA used in this study.**